Gerbils, rather than rats or other rodents, are selected for this example, as the pyrimidine metabolism of said gerbils is closer to humans. For practical and ethical reasons humans cannot always be used for certain experimental studies and those skilled in the art generally recognize that the gerbil model is equivalent to a human model. Indeed, gerbils are the model of choice for certain human diseases and brain disorders such as cerebral ischemia (Ginsburg et al., Rodent models of cerebral ischemia. *Stroke* 20:1627-1642, 1989). Gerbils are given uridine orally and 60 minutes later plasma and brain levels of cytidine and uridine are measured by the modified HPLC method described in Example 1. Fig. 3 shows the relative ratio between uridine and cytidine levels in plasma after oral administration of 250 milligram per kg of body weight (mg/kg) of uridine. Fig. 4 shows the relative ratio between uridine and cytidine levels in the brain after oral administration of 250 mg/kg of uridine. These results indicate that the metabolic processing of uridine in the brain is different than systemic processing of uridine in plasma. The results also indicate that uridine, when transported into the brain, is readily converted to cytidine and this conversion is more efficient in the brain than in plasma. Similar experiments are also carried out in humans wherein instead of measuring brain levels of nucleosides, the CSF levels are measured. The finding that uridine is readily converted to cytidine especially in the brain is totally unexpected and constitutes the basis for the present invention.

IN THE CLAIMS:

Please cancel claim 40 without prejudice or disclaimer.

Please enter the following amended claims (for the Examiner's convenience all pending claims are also set forth herein):

39. (Amended) A method of increasing brain cytidine levels in a human in need thereof comprising administering an effective amount of uridine or a precursor thereof, wherein the effective amount of uridine is less than 300 mg/day, and wherein the effective amount of the precursor is an amount that converts to less than 300 mg uridine/day when subjected to metabolic processes.